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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,517	08/18/2003	Takafumi Nakagawa	402751/PALMO	1586
23548	7590	04/04/2005	EXAMINER	
LEYDIG VOIT & MAYER, LTD 700 THIRTEENTH ST. NW SUITE 300 WASHINGTON, DC 20005-3960			DONOVAN, LINCOLN D	
			ART UNIT	PAPER NUMBER
			2832	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/642,517

Applicant(s)

NAKAGAWA ET AL.

Examiner

Lincoln Donovan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-19 is/are pending in the application.
- 4a) Of the above claim(s) 5,8-10,12 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6,7,11,13-17 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12-10 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12-20-04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 5, 8-10, 12 and 18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected embodiments. Applicant timely traversed the restriction (election) requirement in the reply filed on 12-20-04.

Applicant's election with traverse of the restriction in the reply filed on 12-20-04 is acknowledged. The traversal is on the ground(s) that some of the claims are generic and there are only six distinct embodiments. This is found persuasive. Group I, as redefined and elected by applicant to include claims 1, 3-4, 6-7, 11, 13-14, 15-17 and newly added claim 19, are examined on merit.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-4, 7, 11, 13-14, 15-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cereda et al. [US 6,084,492] in view of McKean et al. [US 6,009,615].

Regarding claims 1, 7, 14, 17 and 19, Cereda et al. disclose a magnetic actuator [figure 1] comprising:

- a first yoke [10];

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- a second yoke [20] affixed to the first yoke;
- at least one permanent magnet [6, 7] positioned within the yoke structure;
- an armature [3] located inside the first yoke and movable in reciprocating motion over a stroke between a first position and a second positions along a first direction; and

- a plurality of coils [4, 5] wherein a flux generated by the at least one of the coils passes through a first magnetic circuit including the armature and the first yoke to move the armature toward one of the first and second positions and a flux generated by the at least one permanent magnet passes through a second magnetic circuit including the at least one permanent magnet, the first and second yokes and the armature to hold the armature in one of the first and second positions [column 3, lines 30-43].

Cereda et al. disclose everything claimed except the yokes being formed of laminations.

McKean et al. discloses a bistable actuator [10] having a yoke and armature structure [12, 40] formed of laminations [figure 1].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a laminated yoke for the yoke structure of Cereda et al., as suggested by McKean et al., in order to optimize flux.

Regarding claim 3, Cereda et al. disclose the at least one permanent magnet located between the first and second yokes at an end surface of the second yoke facing the armature.

Regarding claims 4, 11, and 13 Cereda et al. disclose everything claimed except the specific dimensions of the air gaps, magnetomotive force of the coils and size of the armature.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the specific dimensions of the air gaps, magnetomotive force of the coils and size of the armature, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 15-16, Guery et al. further disclose the laminated armature having inner yokes, or end plates [31, 32], positioned inside of the end surfaces of the armature laminations [figure 1].

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cereda et al., as modified, as applied to claim 1 above, and further in view of Guery et al. [US 4,635,016].

Cereda et al., as modified, disclose everything claimed except the second yoke being perpendicular to the first yoke.

Guery et al. discloses an actuator [figure 2] having first and second yokes [25, 28] perpendicular relative to each other.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the yoke arrangement of Guery et al. for the yokes of Cereda et al., as modified, in order to channel the flux about the armature.

Conclusion

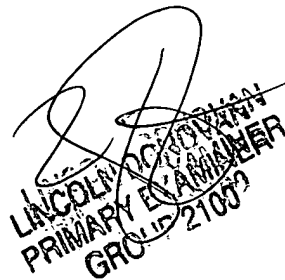
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lincoln Donovan whose telephone number is 571-272-1988. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Enad Elvin can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ldd


LINCOLN DONOVAN
PRIMARY EXAMINER
GROUP 2100